DURAN®

Technical Data

GlassType/Application	Borosilicate glass 3.3 acc. to ISO 3585, chemically and thermally highly resistant General-purpose glass for apparatus for the chemical industry, for pipelines and lab glassware

Physical Data			
	Coefficient of mean linear thermal expansion		
	α(20°C; 300°C) (ISO 7991)	3.3	$10^{-6}K^{-1}$
	Transformation temperature T_g (ISO 7884-8)	525	°C
	Glass temperature at viscosity η in dPa·s		
	10^{13} (annealing point) (ISO 7884-4)	560	°C
	$10^{7.6}$ (softening point) (ISO 7884-3)	825	°C
	10^{4} (working point) (ISO 7884-2)	1260	°C
	Stress-optical coefficient K (DIN 52314)	4.0	$10^{-6}mm^2 \cdot N^{-1}$
	Density ρ at 25°C	2.23	$g \cdot cm^{-3}$
	Modulus of elasticity E (Young's modulus)	63	$10^3 N \cdot mm^{-2}$
	Poisson's ratio μ	0.2	
	Thermal conductivity λ_w at 90°C	1.2	$W \cdot m^{-1} \cdot K^{-1}$
	Log of the electric volume resistivity (Ω·cm)		
	at 250°C	8.0	
	at 350°C	6.5	
	t_{k100}	250	°C
	Dielectric constant ε for 1 MHz at 25°C	4.6	
	Dielectric loss factor tan δ for 1 MHz at 25°C	37	10^{-4}
	Refractive index n_d (λ = 587.6 nm)	1.473	

Chemical Resistance			
	Hydrolytic resistance (ISO 719)	Class	HGB 1
	Acid resistance (DIN 12116)	Class	S 1
	Alkali resistance (ISO 695)	Class	A 2

The heavy metal content for the elements lead, cadmium, mercury and hexavalent chromium is below 100 ppm

Business Segment Tubing / 1/2013

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